CLAIM AMENDMENTS

Claim Amendment Summary

Claims pending

- Before this Amendment: Claims 1-46.
- After this Amendment: Claims 1-42 and 45-46.

Non-Elected, Canceled, or Withdrawn claims: 43-44.

Amended claims: 10 and 29.

New claims: none.

Claims:

1. (ORIGINAL) A kernel emulator for non-native program modules, the emulator comprising:

an interceptor configured to intercept kernel calls from non-native program modules;

a call-converter configured to convert non-native kernel calls intercepted by the interceptor into native kernel calls.

2. (ORIGINAL) An emulator as recited in claim 1, wherein the call-converter comprises a translator configured to translate a non-native paradigm for passing parameters into a native paradigm for passing parameters.

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3. (ORIGINAL) An emulator as recited in claim 1, wherein the call-converter comprises a translator configured to translate non-native CPU instructions into native CPU instructions.

4. (ORIGINAL) An emulator as recited in claim 1, wherein the call-converter comprises a translator configured to translate addresses from non-native length into native length.

5. (ORIGINAL) An emulator as recited in claim 1, wherein the call-converter comprises an argument-converter configured to convert non-native argument format into native argument format.

6. (ORIGINAL) An emulator as recited in claim 1, wherein the call-converter comprises a translator configured to translate words from non-native word size into native word size.

7. (ORIGINAL) An emulator as recited in claim 1 further comprising a memory constrainer configured to limit addressable memory to a range addressable by non-native program modules.

8. (ORIGINAL) An emulator as recited in claim 1 further comprising a shared-memory manager configured to manage memory space that is accessible to both native and non-native program modules.

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9. (ORIGINAL) An emulator as recited in claim 1 further comprising a shared-memory manager configured to synchronize a native shared data structure with a non-native shared data structure.

10. (CURRENTLY AMENDED) An emulator as recited in claim 1 further comprising a shared-memory manager configured to manage memory space that is accessible to both native and non-native program modules, wherein the shared-memory manager maps versions of process shared data structures (process SDSs) and versions of thread shared data structures (thread SDSs) between native and non-native program modules.

11. (ORIGINAL) An operating system on a computer-readable medium, comprising:

a native kernel configured to receive calls from native program modules;

a kernel emulator as recited in claim 1 configured to receive calls from non-native program modules.

12. (ORIGINAL) An operating system on a computer-readable medium, comprising:

a native kernel configured to receive calls from native APIs;

a kernel emulator as recited in claim 1 configured to receive calls from non-native APIs.

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13. (ORIGINAL) A method of emulating a kernel for non-native program modules, the method comprising:

intercepting kernel calls from non-native program modules;

converting the intercepted non-native kernel calls into native kernel calls.

14. (ORIGINAL) A method as recited in claim 13, wherein the converting step comprises translating a non-native paradigm for passing parameters into a native paradigm for passing parameters.

15. (ORIGINAL) A method as recited in claim 13, wherein the converting step comprises translating non-native CPU instructions into native CPU instructions.

16. (ORIGINAL) A method as recited in claim 13, wherein the converting step comprises translating addresses from non-native length into native length.

17. (ORIGINAL) A method as recited in claim 13, wherein the converting step comprises translating words from non-native word size into native word size.

18. (ORIGINAL) A method as recited in claim 13 further comprising limiting addressable memory to a range addressable by non-native program modules.

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19. (ORIGINAL) A method as recited in claim 13 further comprising synchronizing a native shared data structure with a non-native shared data structure.

20. (ORIGINAL) A method as recited in claim 13 further comprising mapping versions of process shared data structures (SDSs) between native and non-native program modules.

21. (ORIGINAL) A method as recited in claim 19, wherein a process SDS of a native program module includes a pointer to a process SDS of a non-native program module.

22. (ORIGINAL) A method as recited in claim 19, wherein a process SDS of a non-native program module includes a pointer to a process SDS of a native program module.

23. (ORIGINAL) A method as recited in claim 13 further comprising mapping versions of thread shared data structures (SDSs) data structure between native and non-native program modules.

24. (ORIGINAL) A method as recited in claim 22, wherein a thread SDS of a native program module includes a pointer to a thread SDS of a non-native program module.

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25. (ORIGINAL) A method as recited in claim 22, wherein a thread SDS of a non-native program module includes a pointer to a thread SDS of a native program module.

26. (ORIGINAL) A computer comprising one or more computer-readable media having computer-executable instructions that, when executed by the computer, perform the method as recited in claim 13.

27. (ORIGINAL) A computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim 13.

28. (ORIGINAL) An operating system embodied on a computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim 13.

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29. (CURRENTLY AMENDED) A method comprising:

determining whether an initiating program module is a native or non-native;

if the initiating program is non-native:

limiting available memory to a range that is addressable by the non-native program module, that range of addressable memory being less that the available memory;

establishing non-native a version of a shared memory data structure that may be synchronized with a native version of the same shared memory data structure.

30. (ORIGINAL) A method as recited in claim 29 further comprising:

intercepting kernel calls from the non-native program module;

converting the intercepted non-native kernel calls into native kernel calls.

31. (ORIGINAL) A method as recited in claim 29 further comprising emulating a non-native kernel for which kernel calls from the non-native program module are intended.

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32. (ORIGINAL) A computer comprising one or more computer-readable media having computer-executable instructions that, when executed by the computer, perform the method as recited in claim 29.

33. (ORIGINAL) A computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim 29.

34. (ORIGINAL) A method comprising emulating a non-native kernel for a native computing platform so that kernel calls from non-native applications are translated into calls to a native kernel.

35. (ORIGINAL) A method as recited in claim 34, wherein the emulating step comprises:

translating non-native CPU instructions into native CPU instructions;

translating addresses from non-native length into native length;

limiting addressable memory to a range addressable by non-native program modules.

36. (ORIGINAL) A method as recited in claim 35, wherein the emulating step further comprises translating a non-native paradigm for passing parameters into a native paradigm for passing parameters.

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37. (ORIGINAL) A method as recited in claim 34, wherein the converting step further comprises translating words from non-native word size into native word size.

38. (ORIGINAL) A computer comprising one or more computer-readable media having computer-executable instructions that, when executed by the computer, perform the method as recited in claim 34.

39. (ORIGINAL) A computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim 34.

40. (ORIGINAL) A kernel emulator configured to emulate a non-native kernel for a native computing platform so that kernel calls from non-native applications are translated into calls to a native kernel.

41. (ORIGINAL) An emulator as recited in claim 40, wherein the emulator comprises:

an instruction-translator configured to translate non-native CPU instructions into native CPU instructions;

an address-translator configured to translate addresses from non-native length into native length;

an memory constrainer configured to limit addressable memory to a range addressable by non-native program modules.

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42. (CURRENTLY AMENDED) An operating system on a computer-readable medium, comprising:

a native kernel configured to receive calls from native program modules;

a kernel emulator as recited in claim 40 configured to receive calls from non-native program modules.

43. (CANCELED)

44. (CANCELED)

45. (ORIGINAL) A kernel emulator for non-native program modules, the emulator comprising:

an interceptor configured to intercept kernel calls from non-native program modules;

a call-converter configured to convert non-native kernel calls intercepted by the interceptor into native kernel calls, wherein the call-converter comprises:

an instruction-translator configured to translate non-native CPU instructions into native CPU instructions;

an address-translator configured to translate addresses from non-native length into native length.

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46. (ORIGINAL) An operating system on a computer-readable medium, comprising:

a native kernel configured to receive calls from native program modules;

a kernel emulator as recited in claim 45 configured to receive calls from non-native program modules.

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